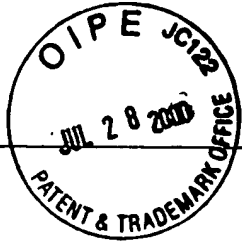


23
consider

a retracted position in which the separation finger is retracted from the stream of web product;

wherein the separation finger is mounted for simultaneous translation and rotation [with respect to the stream of web product] between the extended and retracted positions.



REMARKS

This Amendment is filed in response to the Office Action dated April 25, 2000 issued with respect to the present application, and is further to the Examiner's Interviews with the undersigned Applicant's Representative on July 19, 2000.

On pages 2 and 3 of the Office Action, the Examiner restricts the claims of the present application under 35 U.S.C. §121 to one of the following inventions identified by the Examiner:

- I. Claims 1-23; and
- II. Claims 24-29.

As noted by the Examiner on page 3 of the Office Action, a provisional election was made with traverse (by the undersigned Applicant's Representative on April 13, 2000) to prosecute claims 1-23. The Applicant hereby affirms this election with traverse.

In Section 6 of the Office Action, the disclosure of the present application is objected to as employing reference numbers 26 and 76 for the same element (the translation block). Accordingly, the Applicant hereby amends the specification to replace all instances of reference numeral 76 with reference numeral 26. The Applicant therefore respectfully submits that the Specification objections have been overcome.

In Sections 7 and 8 of the Office Action, claims 1-12 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Accordingly, claim 1 is hereby amended to address the informality identified by the Examiner on line 6 thereof. With regard to

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the claim 3 and 18 rejections, the Applicant respectfully submits that the term "the at least" found therein does have proper antecedent basis. Claim 3 calls for "at least one rod", and later properly refers to this element as "the at least one rod" (rather than "the rod" or only as "at least one rod"). Similarly, claim 18 calls for "at least one elongated rod", and later properly refers to this element as "the at least one elongated rod" (rather than "the elongated rod" or only as "at least one elongated rod"). In light of the above comments, the Applicant respectfully submits that the outstanding 35 U.S.C. §112, second paragraph rejections have been overcome.

INTERVIEW
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ST In Sections 9 and 10 of the Office Action, claims 13 and 23 are rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Number 4,673,382 issued to Buck et al. In this rejection, the Examiner takes the position that the separation finger of claims 13 and 23 is comparable to the dividing member 22 of the Buck et al. device. In the July 19, 2000 Examiner's Interview with the undersigned Applicant's Representative (held via telephone), the Examiner further noted that the pivot axis claimed in claim 13 is comparable to the pivot connection between the rod 73 and the bent lever 77 of the Buck et al. device, and that the "separation finger mounted to orbit about an orbit axis located a distance from the pivot axis" as claimed in claim 13 is comparable to the motion of the dividing member 22 with respect to the pivot 61 (or with respect to the pivot connection between the connecting rod 79 and the double lever 80) of the Buck et al. device.

Claim 13 is hereby amended, and calls for:

A separation finger apparatus . . . comprising:

- a pivot axis;
- an orbit axis located a distance from the pivot axis;
- a separation finger . . . pivotably mounted about the pivot axis, the separation finger also mounted to orbit about the orbit axis to move the separation finger through an arc between its extended and retracted positions. (Underlining added for emphasis; amendment marks not shown).

As discussed for example on page 5, lines 8-11 and 18-22, page 14, line 15 to page 15, line 9, and page 18, line 16 to page 19, line 2, it is desirable to position a separation finger as

close as possible to the rolls feeding the web material. This permits greater control of the web being fed to the stack building area and permits shallower grooves to be used in the folding rolls (because less interference exists between the separation finger and the folding rolls). By mounting the separation finger for rotation about one axis and for orbiting about another axis, the separation finger can be moved through an arc into and of the stack building area. This type of motion obviously differs from a separation finger that merely translates into and/or out of the stack building area, such as the separating means 24 of the Buck et al. reference. This type of motion also differs from a separation finger that merely rotates into and/or out of the stack building area, such as the prior art separation finger 1 shown in FIG. 1 of the present application. In this latter case, a portion of the separation finger (e.g., the top bent portion) may travel through an arc, but the separation finger itself merely rotates in place and does not travel at all - whether through an arc or otherwise. As will now be discussed, this is an important distinction between the present invention as claimed in claim 13 and the Buck et al. device.

Regardless of whether the dividing member 22 is pivotable and orbital about respective axes and regardless of which axes are considered to be pivoted and orbited about in the Buck et al. device, the dividing member 22 does not travel "through an arc between its extended and retracted positions". The dividing member moves in the following manner: rotating into the stack building area, then translating out of the stack building area, then rotating to an upwardly directed position, and then translating toward the stack building area. This motion is clearly described in column 5, lines 44-57 of the Buck et al. reference. At most, the dividing member 22 is rotatable in two different positions in its range of translational motion. The dividing member 22 does not move "though an arc between its extended and retracted positions" any more than the prior art separation finger 1 illustrated in FIG. 1 of the present application. Although a portion (e.g., the tip) of the separation finger 22 may trace an arc as it is rotated (like the arc traced by the tip of the separation finger 1 in FIG. 1 of the present application), the separation finger 22 itself does not travel through an arc, and only translates in a straight line guided by sliding guides 74. This type of motion is substantially different from motion enabled by the structure claimed in amended claim 13. Amended claim 13 calls for a separation finger that is movable through an arc between its extended and retracted positions, not a portion of a separation finger movable in this manner.

By being mounted for rotation about a rotation axis and for orbiting about an orbit axis to move the separation finger through an arc between its extended and retracted positions, the separation finger of amended claim 13 can be moved with much lower interference with the folding rolls and can be located much closer to the folding rolls - capabilities not existing in the dividing member motion disclosed in the Buck et al. reference. Indeed, the Buck et al. reference provides no teaching, suggestion, or motivation to modify the motion of its dividing member 22 to move in an arc between its extended and retracted positions. Based upon FIGS. 1-5 of the Buck et al. reference and upon the limited description therein of the dividing member 22, and of the rods 73, 75 and sliding guides 74 which control the dividing member's motion, it is not even clear whether the Buck et al. device could be modified to permit movement of the dividing member 22 through an arc. Modifying the Buck et al. device would appear to either increase interference of the dividing member 22 with the folding roller 11 or would create interference between the dividing member 22 and the separating means 24. In contrast, the motion enabled by the separation finger structure and operation claimed in claim 1 does just the opposite: reducing separator finger interference (e.g., with the folding rolls).

It should be noted that United States Patent Number 4,676,113 issued to Bond (cited in conjunction with the Buck et al. reference against other claims of the present application) provides nothing to the Buck et al. reference to anticipate amended claim 13 or render amended claim 13 obvious. The arm 48 of the Bond device (compared to the claimed separation finger in other claim rejections) does not move "through an arc between . . . extended and retracted positions". Instead, the arm 48 only pivots about shaft 52, which is fixed with respect to the base 10. See column 2, lines 8-11 of Bond. Although an end of the arm 48 may trace an arc in its movement, the arm 48 itself does not travel through an arc. The arm 48 merely rotates in place and does not travel at all - whether through an arc or otherwise.

In light of the above, the Buck et al. and Bond references taken alone or in combination fail to teach, describe, or suggest a separation finger apparatus as claimed in amended claim 13. Therefore, amended claim 13 is believed to be allowable over the prior art.

Claim 23 is hereby amended, and calls for:

A separation finger apparatus . . . comprising:

a separation finger . . .

. . . wherein the separation finger is mounted for simultaneous translation and rotation between the extended and retracted positions. (Underlining added for emphasis; amendment marks not shown).

As described in more detail above, it is desirable to position a separation finger as close as possible to the rolls feeding the web material. By mounting the separation finger "for simultaneous translation and rotation between [its] extended and retracted positions", the separation finger can be inserted into tighter areas that would not otherwise be accessible by separation fingers that only rotate, and the separation finger can move farther into a stream of web material without damaging the moving web than separation fingers that only translate. Such advantages are discussed, for example, on page 5, lines 8-11 and lines 18-23.

In contrast, the device disclosed in the Buck et al. reference employs a dividing member 22 that translates and that rotates, but does not perform these functions simultaneously. As described above, the dividing member 22 moves in the following manner: rotating into the stack building area, then translating out of the stack building area, then rotating to an upwardly directed position, and then translating toward the stack building area. This motion is clearly described in column 5, lines 44-57 of the Buck et al. reference. "Simultaneous translation and rotation" of the dividing member 22 is not taught, described, or suggested by the Buck et al. reference. Furthermore, none of the advantages offered by simultaneously translating and rotating a separation finger 22 are even suggested in the Buck et al. reference, and so no motivation exists for modifying the Buck et al. device to operate in this manner.

It should be noted that the Bond reference provides nothing to the Buck et al. reference to anticipate amended claim 23 or render amended claim 23 obvious. The arm 48 of the Bond device (compared to the claimed separation finger in other claim rejections) is incapable of simultaneously translating and rotating. The arm 48 is pivotably mounted upon shaft 52, which is fixed with respect to the base 10. See column 2, lines 8-11 of Bond. Therefore, the arm 48 is

only capable of rotation, does not translate in any manner, and is not "mounted for simultaneous translation and rotation" as claimed in amended claim 23.

In light of the above, the Buck et al. and Bond references taken alone or in combination fail to teach, describe, or suggest a separation finger apparatus as claimed in amended claim 23. Therefore, amended claim 23 is believed to be allowable over the prior art.

In Sections 11 and 12 of the Office Action, claims 1, 2, 4, 6-10, 12, 14-20, and 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Buck et al. reference in light of the Bond reference. Specifically, the Examiner takes the position that the Buck et al. reference teaches the apparatus as claimed in claim 1, with the exception of "a translation member having a length along which the separation finger can translate" and "a pivot member rotatably coupled to the separation finger." The Examiner states that Bond discloses these elements and limitations, and that it would have been obvious to one having ordinary skill in the art to combine the teachings of the Buck et al. and Bond references to arrive at the present invention as claimed (in claim 1).

Claim 1 is hereby amended, and calls for:

A separation finger apparatus . . . comprising:

a separation finger;

a translation member;

a pivot member rotatably coupled to the separation finger . . . , the translation member and the pivot member being rotatable with respect to one another to simultaneously translate and rotate the separation finger in a range of positions upon the length of the translation member between and including a retracted position and an extended position with respect to the stream of web material. (Underlining added for emphasis; amendment marks not shown).

The discussion above with regard to the patentability of amended claims 13 and 23 over the Buck et al. and Bond references applies equally to the rejection of amended claim 1. Specifically, the device disclosed in the Buck et al. reference employs a dividing member 22 that

translates and that rotates, but does not perform these functions simultaneously. As described above, the dividing member 22 moves in the following manner: rotating into the stack building area, then translating out of the stack building area, then rotating to an upwardly directed position, and then translating toward the stack building area. This motion is clearly described in column 5, lines 44-57 of the Buck et al. reference. Simultaneous rotation and translation of the dividing member 22 is not taught, described, or suggested by the Buck et al. reference. Furthermore, none of the earlier-described advantages offered by a separation finger mounted to simultaneously rotate and translate are even suggested in the Buck et al. reference, and so no motivation exists to modify the Buck et al. device to operate in this manner.

As also discussed above, the Bond reference also fails to teach, describe, or suggest a separation finger that can be rotated and translated simultaneously (as claimed in amended claim 1). In the rejection of claim 1, the Examiner compares the arm 48 of the Bond device with the separation finger 22 of the present invention. However, the arm 48 of the Bond device is incapable of simultaneously translating and rotating. The arm 48 is pivotably mounted upon shaft 52, which is fixed with respect to the base 10. See column 2, lines 8-11 of Bond. Therefore, the arm 48 is only capable of rotation, does not translate in any manner, and cannot "simultaneously translate and rotate" as claimed in amended claim 1.

In light of the above, the Buck et al. and Bond references taken alone or in combination fail to teach, describe, or suggest a separation apparatus as claimed in amended claim 1. Therefore, amended claim 1 is believed to be allowable over the prior art.

Claims 2, 4, 6-10 and 12, and claims 14-20 and 22 are each ultimately dependent upon independent claims 1 and 13, respectively. Accordingly, claims 2, 4, 6-10 and 12, and claims 14-20 and 22 are believed to be allowable based upon independent claims 1 and 13, respectively.

In view of the above amendment and remarks it is submitted that the claims are patentably distinct over the prior art, that all the rejections to the claims have been overcome, and that the application is in condition for allowance. Allowance of the present application is therefore respectfully requested.

Respectfully submitted,

BY 

Christopher B. Austin
Attorney for Applicant
Registration No. 41,592

Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, WI 53202
414-225-8265

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